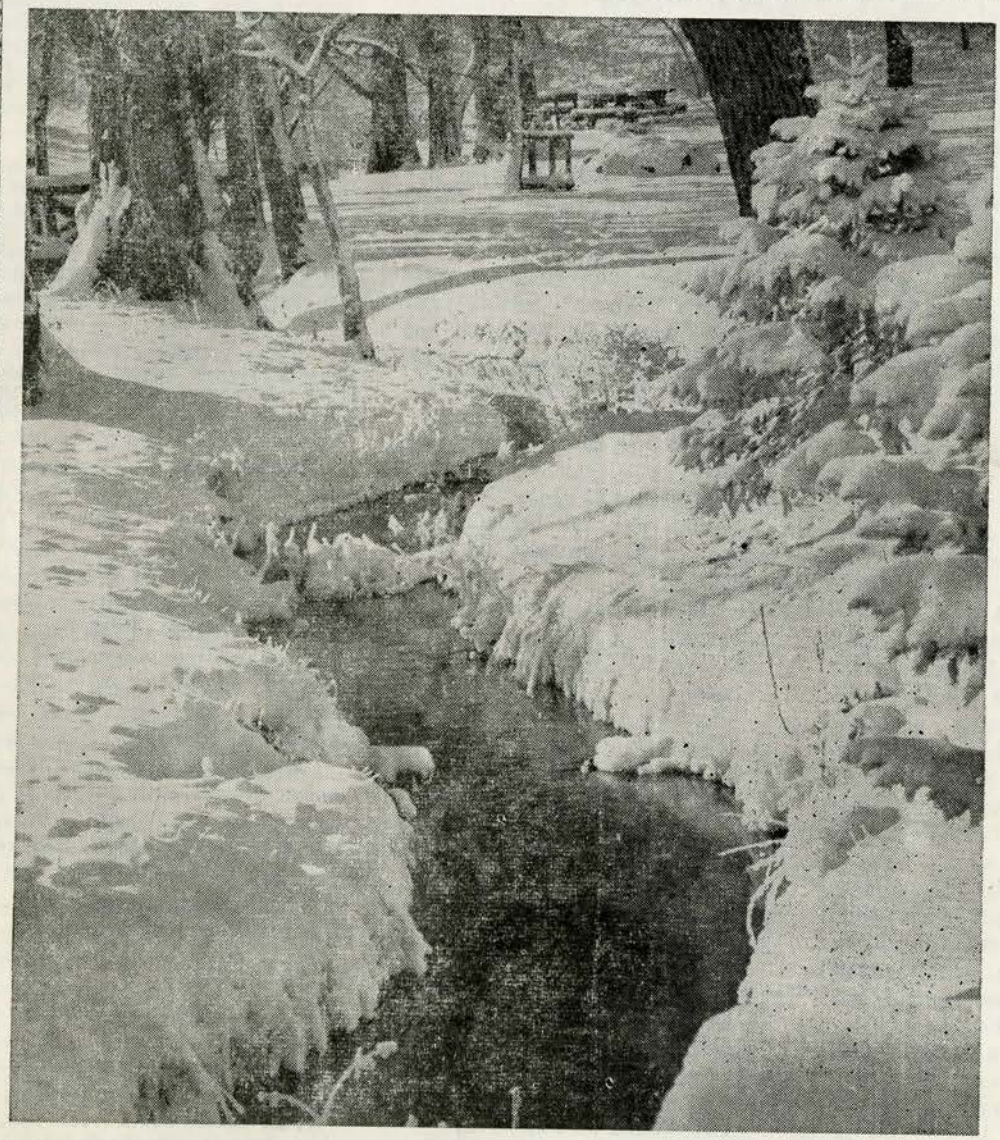
VOLUME 23 Number 7
Price 10 Cents

NORTH AND SOUTH DAKOTA HORTICULTURE

JULY, 1950



Canyon Lake. Rapid City

Would never print such a picture in winter, but hope it will make you feel better on a hot day in July.

—Courtesy of the Chamber of Commerce Rapid City

THE PROTHONOTARY WARBLER

By
O. A. Stevens

O. A. Stevens

One summer when I went to visit my family in northeastern Kansas, I found them much excited about a small yellow bird which was nesting in a bird house in an apple tree. It proved to be a prothonotary warbler, a species new to me at that time. I believe it has not been recorded in North Dakota but Over and Thoms state that it is common in eastern South Dakota. In Minnesota it is mostly restricted to the Mississippi River north to Red Wing.

This is not among the warblers which seek the northern coniferous woods. It is one of the southern forms and comes north only into the southern part of the northern states, but through central and southern United States it is a well known bird. Like the other warblers it departs for northern South America or southern Central America for the winter.

This is a prominently marked warbler. The male is bright, golden yellow all over the head, neck and under parts. The back is greenish yellow, more black toward the wing tips and tail without any wing bars or other markings.

It was first described from Louisiana about 1770. Wilson said, "It seldom approaches the house or garden but keeps among the retired, deep and dark swampy woods." While this seems to be true over most of its range, it has shown a remarkable lack of fear of man and a readiness to adapt itself to man-made conditions.

Instead of building its nest on the tiny limbs high up in a tree. this warbler uses hollow trees or other cavities. My bird box nest was not unusual. E. S. Goss. veteran Kansas ornithologist, reported a nest in a hole in a timber of a sawmill and later in an old tin cup on a beam in the mill. Dr. Roberts reported several Minnesota nests in odd places on the railroad bridge at LaCrosse, others in a bluebird box on a post near a railroad, a tin cup in a barn and a glass fruit jar on a house boat. The eggs are 4 to 6 in number, white, thickly spotted with reddish brown, about five-eighths of an inch long.

Howell, in Florida Bird Life, says this warbler is locally common thru the northern and central parts of the state in summer. He cites no unusual nesting sites but states that the birds inhabit the swampy woods and nest in stubs 3 to 15 feet above ground. One is intrigued by the name prothonotary, but we have no explanation of it. Ellitt Coues, who devoted much attention to the meaning of names, wrote: "Low Latin, first notary or scribe; why?"

MY NEIGHBOR

By Louise Kinyon

My neighbor used to waste my time
  And I thought it was a crime.
He'd say "Well Joe—What do you know "
  My poor top I'd almost blow.
I could name you times by the dozen
  When he'd shout, "Hello cousin—what's buzzen?"
Some times I thought I could stand no more,
  There must be a spray for such a bore.
Well, the old man died, and my wife cried;
  Not I—Oh, Boy, I sighed.
Peace would reign for evermore;
I'd make my garden without that bore.
On the first day of spring I grabbed my spade—
  It was very little progress that I made.
Something was missing, I couldn't tell what;
  It was peaceful, quiet and the sun was hot.
The quiet got me around the neck.
  My neighbor was loud—but what the heck.
His cheery voice as he 'kabitzed'
  Would have helped me dig a six-foot ditch.
Too late I found—I will be bound,
  By some queer quirk I loved the jerk.
So to the cemetery I went
  And a quiet hour there I spent.

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Entered as second class matter at the Post Office at Sioux Falls. S. Dak., under the act of August 24, 1912. Original office of entry, Pierre, S. D.

Membership in the South Dakota State Horticultural Society is one dollar per year; fifty cents of this amount is for the subscription to "North and South Dakota Horticulture." The subscription rate for affiliated organizations is fifty cents per member, per year.

Published monthly at Sioux Falls, S. Dak., by the North and South Dakota State Horticultural Societies. Address all communications to W. A. Simmons, Secretary, Horticultural Office, Court House, Sioux Falls, S. D.

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NEWSLANTS
By
Harry A. Graves

H. A. Graves

A. E. Cott, writing in the Iowa Fruit Growers Association Newsletter for May, comments about the large amount of winter killing which occurred in the Sodus raspberry planting at Ames the past season. Some of plants killed back to the ground. Mr. Cott points out that he had not observed this other places this spring and I am just wondering if it could have been a common experience.

I believe two of the chief enemies of raspberries here in North Dakota are the Red Spider mite and the fact that no one covers or attempts to protect their plants in any way. Too many times the canes are killed to the snow line each year. I have not had any word on the behavior as to the winter hardiness of the Durham everbearing raspberry which O. H. Will & Co. have been growing the past 2 or 3 years. This variety Durham is a so called everbearing raspberry developed by Dr. Yeager at the University of New Hampshire and, if hardy enough, should have considerable promise for us here in the North.

Our flowering crabapples this year were in bloom for a very short period. The hot weather of June 6 was just too much for them and they became the color of wood ashes in a short while. Since they did not open up until the second or third of June here are Fargo, our bloom from these beautiful ornamentals were very disappointing.

Nothing we have seen this year changes our opinion as to which are the 10 best hybrid lilacs. Diane, the seedling grown and named by Dr. C. I. Nelson of Fargo, is still one of the best singles we have seen. We have some very fine reports on the single white Vestale and its ability to withstand water apparently a little better than some of the other hybrids. There is only one thing that most hybrid lilacs simply will not stand at all and that is to stand in water for any length of time. We lost 2 or 3 very fine varieties this spring but fortunately have more where they came from. Incidentally, if you are interested in getting our mimeographed leaflet, "Horticulture No. 9, "10 Good Hybrid Lilacs,"' you can have a copy of same by writing to the North Dakota Horticultural Society, NDAC, Fargo. It is not too early to begin planning for next year.

Extension Folder F-129, "Pollination and Fruit Set of Orchard Fruits" from the Extension Service of Michigan State College, East Lonsing, is a leaflet that will be of interest to those of you who are interested in pollination of fruit trees. The folder is not very extensive and is easily and quickly read. While it may not be too practical here on the Northern Great Plains. the fact remains that it does answer some questions that many folks may have in regard to the pollination of various fruits.

Our personal vegetable garden was planted this week, just exactly a month later than we would like to have planted it. It has been our practice for some years now to plant our vegetables for the most part about May 15. This year we completed planting our garden just about one month later.

I am not concerned about the early varieties of corn but some of the other things which have to be mature in order to be enjoyed are going to be late enouugh.

With too many rings in our private circus we did not manage to get to the Fargo Iris Show at all. However, reports are that there were some very fine blooms exhibited. One of the varieties that stimulated considerable comment was the seedling, Solveig, an origination of the Sheyenne Gardens at West Fargo. From all reports this seedling is very beautiful and one that we, no doubt, will hear more from in the future.

A hurried trip to Morden on June 3 yielded an all too short visit with a few members of the staff including W. R. Leslie and Ray Ure. We were also fortunate in crossing paths with William Godfrey, retired head gardener at the Morden Station. Meetings with the personnel of this wonderful station are always inspiring and to be looked forward to and reviewed with pleasure. The folks at Morden are behind with their work this spring as is every one else and few people know what the harvest is going to be. Everything will depend, of course, on the weather from now on.

The Northern Great Plains section of the American Society for Horticultural Science will meet at the University of Minnesota, August 14-16. The first meeting of the group will get under way in the Horticulture Building on the farm campus at the University of Minnesota on August 14. This is one session where the Canadian and the American horticulturists for the Northern Great Plains area get together to exchange ideas and to study the plant material at the station where the particular session is held. Any of these meetings that we have taken in have been very much worth while.

We have on our desk a brochure on the new book on the flora of North Dakota by Dr. O. A. Stevens, veteran botanist of the North Dakota Agricultural College. Dr. Stevens has been working on this book for a good long time and everyone is looking forward to having a copy of it on their desk. The book contains 28 photos, 70 drawings and 200 sketches and a discussion of the 1143 plants known to grow wild in North Dakota. We will have more about this publication later.

I am afraid we confused some of the membership by the suggestion in the May issue of "North and South Dakota Horticulture" that we were planning a meeting of the North Dakota Society in Fargo on June 9-10. It was our intention to hold this meeting in connection with the Fargo Iris Show originally scheduled for that date. However, the iris did not cooperate and the Iris Show was not held until June 16. Coupled with the unusual season we had difficulty in securing the personnel we wanted for this meeting. They were affected by the weather also since many of them were in the commercial horticultural activity and whether commercial or professional were having difficulty in getting their spring's work done, due to the lateness of the season.

After conferring with those of the

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DELEGATE REPORTS ON GARDEN MEET

By

Mrs. D. S. Baughman

"Early American Garden Traditions" was the theme of the twenty-first annuaul meeting of the National Council of State Garden Clubs, Inc., held in the Hotel John Marshall, Richmond, Va., April 22-27. Attending the convention as South Dakota's only delegate and the first representative South Dakota has ever had at the national meetings was Mrs. D. S. Baughman, president of the Madison Garden club. Forty-one states were represented by over 400 garden club members.

Principal guest speakers at the convention were Dr. Newton B. Drury, director of national park service; Dr. Douglas Southall Freeman, historian, introduced by the editor of the Richmond Times Dispatch, and Dr. Wendell H. Camp, Curator Experimental Plant Sciences, Philadelphia.

Young women who acted as pages and ushers at the evening banquets were dressed in colonial costumes. Unusual and clever table decorations included arrangements of flowers resembling colonial bouquets at one banquet, and dark red geraniums in dull, black containers resembling pots and kettles used in colonial days were the centerpieces at the state presidents' breakfast. Pots of English boxwood, four years old. and heirloom trivets were given as favors.

Throughout the convention, a large bouquet of long-temmed crimson roses, a gift from Indiana, stood in front of the speaker's table or in the main lobby. These roses were specimens of the new "Happiness" rose, propagated by the same Frenchman, Francis Meilland, who originated the famous "Peace" rose last year as part of the French Thank-You train to this country. Sixty-one specimens of the "Happiness" rose were flown to this country where the roses were christened.

Musical entertainment was presented by a number of talented soloists and vocal groups, including a popular negro quartet who sang traditional spirituals.

Mrs. Baughman attended the state presidents' breakfast and forum in the absence of J. M. Atkinson, Rapid City, president of the South Dakota Federation of Garden clubs.

Discussion centered around Junior Garden club work, developing leadership, relations between local clubs, state federation and national council, state projects and how to organize garden clubs in new areas.

The Monday afternoon session marked the official opening of the convention, with Mrs. Leonard B. Slosson, president of the council, presiding. Welcoming speeches were presented by Jesse Dillion, Virginia state treasurer, in the absence of Gov. John S. Battle; the mayor of Richmond, the South Atlantic regional director and the president of the Virginia Garden club federation. After routine business was completed, annual reports of national officers concluded the afternoon session.

During the Tuesday morning session, seven individual committee meetings were conducted by national committee chairmen. States with a sufficient number of delegates were able to have a representative at each meeting.

In one committee, suggestions were made for furthering conservation projects, a highlight this year.

In others, Junior Garden clubs, garden centers, the Blue Star Memorial project, flower show schools, national roadside development and radio were discussed.

The purpose of establishing garden centers in cities is to provide a link between organized members of the garden club, potential gardeners and the general public for the purpose of increasing knowledge of horticulture, conservation and civic beautification. Established garden centers have gardening information available to anyone at no cost, a lending library of books, lectures on flower arranging, landscape design and allied subjects, a card index of speakers and flower show judges willing to give their time, a meeting place for Garden clubs, plots for junior garden clubbers, supervised classes for school children and promotion of park and wildlife protection clubs, etc. More than 200 garden centers have already been established in this country.

Junior Garden clubs organization is rapidly taking first place in importance in many garden clubs.

Junior gardeners are divided into age or school groups and are taught correct methods of sowing, planting, flower arranging, landscaping and planting school grounds, building bird houses, making wild life posters and scrapbooks and many other projects.

The Blue Star Memorial highway project is a tribute to the Nation's Armed forces who served in World War II, and is sponsored by the federated garden clubs of each state in cooperation with the state highway commission. Scenic highways have been chosen in each state and the route has been worked out so that the designated highways connect with those of other states. Scenic roadside turn outs where blue star markers will be placed in our state have been designed by the Nurserymen's association. The markers are over seven feet tall when erected and have a blue five-pointed star and burnished gold letters. Many states have already carried out this project and have also erected roadside parks along their memorial highways.

Other highlights of the national convention included a tour of Richmond gardens, a tea at the governor's mansion and a pre-convention tea at Virginia House, a structure built from portions of three historic English houses, including materials from the ancient Priory of the Holy Sepulchre at Warwick, England, built in 1125 by the first Earl of Warwick.

Delegates were also taken on tours of historic Richmond, Virginia's Blue Star Memorial highway, visits to antique shops and a visit to the Wickham-Valentine house and its garden, a beautiful late Georgian house built in 1812 and restored as a public museum.

At the Wednesday morning session, state presidents gave their reports.

As South Dakota's representative, Mrs. Baughman reported 33 clubs including two junior clubs in the state. She also told of the state federation's efforts last year in the field of conservation, cooperation between state federated clubs and horticulture society, plans for our memorial highway which is situated in the Black Hills area, judging schools held in Brookings and Sioux Falls which sev-

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MANITOBA NEWS LETTER

By

W. R. Leslie

W. R. Leslie

Questions prominent at this season include:

At what height should grass be mown?

It is well to set the lawn mower to cut at 1½ in. The cutting edge of the flat knife, or bed knife, on which the reel cuts should be 1½ inches from the floor on which the machine is standing. Some new models are adjusted by knobs which control the elevation of the whole assembly but older types are modified by dropping the roller. Benefits from not mowing too short are a thicker stronger turf, the mower is more easily pushed and not only requires less frequent sharpening but wears longer. Furthermore, the grass fights weeds better. Mowing is required more frequently.

Lawn clippings are left where they fall unless so heavy they may endanger the grass plants by smothering. Considerable fertilizer value rides in the rich grass tips and they aid in keeping the soil cooler.

Watering should be done infrequently but thoroughly. Dry spells encourage the grass to develop deep roots.

What fertilizer should be given apple trees?

In average prairie soils no fertilizer is applied at planting time. However, it is usually beneficial to mix a gallon or two of granulated acid peat with the top soil that is placed and firmed about the roots. The time to think of fertilizing the fruit tree is when it comes into heavy bearing. Then a generous application of partly rotted manure is worked into the upper soil. This may be augmented by some ammonium phosphate. The careful grower aims to keep his trees in good thrift while being sure he does not over-stimulate them. If induced to become overly vegetative there is the vital danger of seeing young shoots continue in sappy tender condition when crisping frosts of late autumn arrive.

Is multiflora rose adapted as a hedge fence in Manitoba?

No. This Japanese rose is not considered dependably hardy even in Northern Iowa. In mild winters it may come through moderately well in prairie Canada when in a sheltered shrubbery, but in exposed locations it is expected to kill back more or less severely. Suggested substitutes are Turkestan rose, Rosa laxa, with large red fruits and Altai rose, R. altaica, with roundish large purplish fruits. Both these Asiatic species are abundantly hardy and vigorous growers.

Insects may be considered the greatest pest problem which annually confronts the prairie gardener. The Morden Experimental Station is fortunate in having in residence each summer an entomologist who is a specialist in fruit crop insects. He. Mr. H. P. Richardson, has supplied notes on troublesome insects.

Currant Fruit Fly. The adult fly emerges from the soil about the time red currants put forth blooms. As fruits develop on currants and gooseberries the flies deposit eggs in the berries. The eggs hatch to maggots which live within the fruits, usually causing premature redness and early dropping to the ground of the berry.

Suggested control is a spray of 1 pound of 50 per cent wettable DDT powder in 100 gallons of water—or 2 level teaspoons of the powder is one gallon of water. The spray should be applied twice—just as blooming is about ceased and again 10 days later.

Currant Aphid is a common pest of currant bushes. The aphids, or plant lice, feed on the under side of the leaves. This results in characteristic cupping and reddening of the leaves. The insect can be controlled by sprays of nicotine sulphate and soap. For extensive spraying two-thirds pint of 40 per cent nicotine sulphate is mixed with 40 gallons of water, after 2 pounds of soap have been thoroughly dissolved in the water. For small tasks 1 ounce of soap is dissolved in 1 gallon of water, then 2 teaspoonfuls of the poison mixed in. The soap is important in causing the spray to stick to the object it strikes. Spraying is to be applied thoroughly because the poison kills by contact. Apply early in the season as aphid populations increase very rapidly.

Strawberry Weevil and Tarnished Plant Bug are two pests of the strawberry crop. They are considered together as their control measures are the same. The strawberry weevil is a very small snout beetle which cuts off the strawberry buds. The weevil itself is difficult to find, being very small, but the bud damage is readily observed. The presence of the beetle is also recognized by the holes in the petals of open flowers. These are cut in the process of feeding on the buds.

Spray is with 2 pounds of 50 per cent wettable DDT in 100 gallons of water as soon as the buds begin to open.

Insect pests of the present time in the garden.

The tarnished plant bug is responsible for much of the malformations commonly met in strawberries. The affected fruits are often referred to as "nubbins." This bug is not readily seen as it is timid, taking flight or hiding when disturbed. The malformed fruit may be considered as evidence of the bug's presence.

The tarnished plant bug and the strawberry weevil are easily controlled by a spray containing 2 lbs. of 50 per cent wettable DDT in 100 gallons of water—or 4 level teaspoonfuls of the poison in one gallon of water. The spray is applied as the buds begin to open. A second application may be necessary to win control of these two insects on June-bearing varieties of strawberries.

Sand cherry curculio is likely to do a great deal of harm to the fruit of the lowly sand cherry. The fairly large snout beetle is of reddish color. It injures or destroys the fruit firstly by feeding on the flesh and secondly by laying eggs in the seed. Control can be attained by spraying with 1 pound of 50 per cent wettable DDT in 100 gallons of water, or 2 level teaspoonfuls in one gallon of water. Spray is applied as soon as the weevils are noted. Some years they may be absent and spraying would be superfluous.

Rose curculio is another snout beetle which usually causes much despair to the gardener. The insect destroys rose buds by either eating

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GROWING HYBRID TEA ROSES IN SOUTH DAKOTA

By
J. M. Atkinson,
Pres. State Federation

In order to emphasize that my ideas are not all new or original. I shall precede my remarks with a short poem quoted from Kipling:

"When Omar smote 'is bloomin' lyre
He'd heard men sing by land and sea;
An' what 'e thought 'e might require,
'E went and took, the same as me.
The market girl an' fisherman,
The shepherds an' the sailors, too,
They 'eard old songs turn up again,
But kept it quiet, same as you.
They knew 'he stole, 'e knew they knowed,
They didn't tell, or make a fuss
But winked at Omar down the road,
An' 'e winked back—the same as us."

The origin of the rose is lost somewhere in the pages of antiquity. That the rose has been under cultivation for a long time is evidenced by its use as a design in old Persian tapestry, ancient Chinese pottery, and frequent reference to it in the Bible and other ancient literature.

It really does not matter, as far as we are concerned, whether the first cultivated rose came from Persian, China, or some other civilization predating them. The thing that should interest us is that horticulturists have, in the past 75 years, done more and are still doing more to give us beautiful roses than all of the combined efforts of preceding centuries.

It is not my idea to discuss species or bush roses in this instance, nor to give a history of the rose. I merely hope, if possible, to pass on some information I have acquired on how to grow hybrid tea roses in South Dakota. Most of this information is also applicable to hybrid perpetuals, polyanthus, and florabunda.

I first became interested in rose growing in 1902 when I was a small boy. My father had prepared a greenhouse bench with special soil, and all of the other things then thought to be necessary for successful rose growing. After planting, he gave ten remaining bushes to me, which I planted in one end of a carnation bench. Oddly enough, my plants grew better and produced more and better blooms per bush than his did. This little experience made me rose conscious at an early age. Since that time I have grown or helped grow thousands of rose bushes, and have read innumerable articles, as well as talking to many rose growers on cultural practices.

Many writers on the subject seem to convey the idea that rose growing is difficult and should be left to the specialist. Their complicated instructions often tend to discourage or completely baffle the beginner. On the other hand, I am pleased to say that in the past ten years many very good and sensible articles have appeared in bulletins and other publications. Nevertheless, it has been my personal observation that the general public is still under the impression that rose growing is more difficult than it actually need be. With this in mind I propose to mention here a few of the essential facts to remember in order to become a successful rose grower.

First the plants must be alive. Too many rose bushes are dead before they are ever planted. Rose bush storage is a ticklish undertaking, and bushes are hard to hold in a first class dormant condition. Live, vigorous bushes should be obtained early in the spring. While the plants that come into a department store may be good live plants upon arrival. the chances are that the treatment they receive in the store will cause them to wither or to send out long white shoots within a few days.

Even the nursery man who is equipped to handle dormant shrubs often finds it difficult to hold his roses in good condition for any length of time.

Before planting rose bushes, the roots and tops should be pruned; the tops back about sir inches above the bud or graft, and the roots to six or eight inches in length. These measurements need not be followed exactly.

The next problem is soil, a point where many people have been misguided. Roses are not heavy feeders, contrary to the belief commonly set forth by some supposed authorities. Any soil that will grow good garden crops will grow good roses. Commercial fertilizer should never be used the first year after planting. Here in South Dakota roses generally grow better and live longer in soil that never receives any fertilizer, than in soil that has been overfed. One of the chief causes of weak bushes and short lived plants is overfeeding. In soil extremely low in organic matter up to one third of the total volume of soil may be substituted in the form of peat moss, leaf mold, or well rotted barnyard manure at planting time, this being mixed thoroughly with the soil. A top dressing of rotted manure may be used on established rose beds about the middle of May, and in some soils this will prove beneficial. However, I know of some beds that have received nothing in the way of fertilizer for the past ten years and are alive and thriving.

Hybrid tea roses will not do well in soil that is very sandy. However, to grow well, roses should be planted in soil that has good subsoil drainage—that is where water will not stand for any length of time after a rain.

The best bushes for planting are two year old No. 1 field grown plants. In some strong growing varieties No. 1½ bushes will prove satisfactory. When setting out a new bush it is well to loosen the soil to a depth of 16 inches, but not absolutely necessary. The graft or bud should be about one inch below the ground level, and the soil should be tramped firmly about the roots. A heavy boot is often the secret of the green thumb. Here I wish to emphasize the most importance practice to follow when planting new rose bushes, and no matter what else you may or may not do, do not forget this: after the hole is filled, mound loose soil over the tops of the canes and leave this on for two weeks or until the new buds have developed. Many new rose plants are completely withered or weakened by exposing the canes to the sun and wind after planting.

Rose beds may be mulched or cultivated. However, I believe bigger and better plants are obtained if beds are cultivated about once every two weeks throughout the growing season than by any other method.

For years we were warned never to let the sprinkler reach the rose bed, and that roses should always be irrigated with an open hose placed directly on the ground. On the con-

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GARDEN CLUB GLEANINGS

By
Mrs. G. M. Jorgensen

Mrs. Jorgensen

We are happy to turn over part of this month's Gleanings to Mrs. D. S. Baughman, president of the Madison Garden Club, for her grand report of the National Convention of NCSGC in Virginia last month.

Is your club making plans to attend our own state convention in September? Several clubs have earmarked special funds to use to send their delegates to Huron at that time, and every club should have a representaive there.

A big incentive for each president to be at the convention is the Courtesy Tea to be given for national and state officers and club presidents. This is an event, for never before have club presidents been so honored, and the courtesy is due wholly to the generous thoughtfulness of the chairmen, Mesdames Sherman Johnson and H. B. Merritt and their hostess clubs. The Tea will be the afternoon of the first day, but that isn't all the exciting entertainment, for there will also be a genuine Scandinavian Smorgasbord that same evening, and the banquet on the second night.

You can't afford to miss all this.

This year's convention will also include another feature new to South Dakota horticultural circles, when the officers and chairmen of the Rocky Mountain Region of National Council hold their annual business meeting here at the same time. This will bring many figures of national prominence in the garden club world to South Dakota. President Atkinson announces that he has received acceptances from three of the other five state presidents in this region, and there will be many other officers present.

Program numbers will include several National Council speakers, talks on flower arranging or flower styling, slides of the Redwood Grove and Roadsides of America. Conservation, home plantings, and planting plans for future state beautification. Every garden club will be given a chance for a brief report of worthwhile plantings they have made locally. More next month — but make your plans to attend now.

Do you know—

There is no such thing as a Daisy Family? We are accustomed to applying the term "daisy" or daisy-like to any and all flowers with petals which rotate from a central point on the stem like the rays of the sun, and even to some of the double heads which we call globe daisies or double daisies. Many plants with flowers of this type do belong to one great family, but they are known as the Composite Family, and include plants of a great many genera.

The "daisies" of our everyday language are almost as mixed up and unidentifiable as the many flowers to which the name "lily" is so carelessly applied—and I once listed 150 "lily" names to which I can still add new ones every day. Here are a few of the ray-petaled or composite flowers, most of which have a "daisy" name tacked onto them:

Anthemis—Golden daisy or golden marguerite.

Arctotis—African daisy.

Aster—Michaelmas daisy.

Bellium minutum—(Is this the Dahlborg daisy?)

Bellis perennis—English daisy.

Baeria—Everlasting daisy.

Brachycome—Swan river daisy.

Bupthalmum—Oxey's daisy.

Chrysanthemum coccineum—Painted daisy or (Pyrethrum).

Chrysanthemum coreanum—Korean daisy.

Chrysanthemum coronarium—Crown daisy or garland daisy.

Chysanthemum frutescens — Paris daisy.

Chrysanthemum leucanthemum — Oxeye daisy.

Chrisanthemum nipponicum—Nippon daisy.

Chrysanthemum uliginosum—High or Giant daisy.

Dimorphotheca—African daisy or Cape Marigold.

Doronicum—Early yellow daisy or leopardbane.

Erigeron auranticus—Double orange daisy or alpine daisy.

Erigeron speciosus—Blue daisy.

Felicia—Blue daisy or blue marguerite.

Gerbera—Barberton or Transvaal daisy.

Globularia—Globe daisy.

Lagenophosa—New Zealand daisy.

Layia—White daisy.

Matricaria—Turfing daisy.

Rudbeckin hirta—Yellow daisy or black-eyed Susan.

Townsendia—Easter daisy.

Many of the above are good garden subjects, both annual and perennial. To add to the confusion, dahlias, gaillardias and sunflowers which have been bred to huge double flowers, the dandelions on our lawns, and many of our vegetables also belong to the Composite Family.

Quoting from the encyclopedia, "A composite flower is a compound flower, or more accurately a head or compact assembly of small flowers surrounding or surrounded by leafy bracts forming the involuers. The small flowers may be all of one kind or of different kinds as in the daisy, which is a typical composite flower." The mention of "two kinds of flowers" on a daisy sounds confusing until you examine closely the head of a sunflower or other large blossom which is easier to see. The outer petals are ray flowers while the center is also composed of petals that are curled or disk flowers—hence the term "two flowers." A dandelion is composed entirely of disk flowers in a solid head, that is each blossom as we know it, is composed of a great many tiny florets which go to make up the yellow part which we call the flower. It is this group of tiny florets which form a head which are known as composite flowers.

Wouldn't it be interesting to get a complete comparison of "before and after" effects of all the plantings in South Dakota which were directly traceable to garden club sponsorship? Trees and shrubs and even flowers do not make much of an impression when first set out, and their effect is gradual so that folks forget how the spot appeared before the planting; but if you had a pictorial record of it all, we feel the combined results would astonish a good many people. If your club plans a beautification project be sure to photograph the spot "as is" before you start. The Federation might even have a Before

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BOOK REVIEW
By
Mrs. L. N. Brakke

Mrs. L. N. Brakke

Rainbow Iris Manual, by Lloyd Austin, Placerville, Calif.

The purpose of this manual is to acquaint you with the correct type and varieties of iris to plant. New information is continually becoming available, so it is the intention of the author to issue a supplement to this manual each year. The origin and use of iris by man dates back well over 30 centuries to about 1500 B. C. It will surprise many to learn that there are no native lilies in the Holy land. The Biblical references to them are strictly references to the native iris. The iris family contains 20 different types, over 1,000 species, widely distributed over the earth's surface. The author of this manual, a life member of the S. D. State Horticultural Society, Lloyd Austin, Placerville, Calif., gives a simple key to the types of iris, iris culture in general, soils and fertilizers, dividing and resetting, pot culture and pest control. Also iris hybridizing which could be a new hobby to the amateur gardener. His catalog lists 312 varieties and species of iris, blooming season and types to plant for corsages and flower arrangements, for dry, moist or shady places and for exhibition. Anyone interested in iris can obtain his catalog and by ordering iris can get the manual at small cost or free with a $10 order. Mr. Austin would like to receive reports of personal experiences in growing any of the many types of iris and invites everyone to their iris gardens in May and early June.

MANITOBA NEWS LETTER

(Continued from Page 101)

holes in the buds and thus ruining the blossoms or by cutting the bud stem nearly through after it lays an egg in the bud. The buds with their stems cut bend over and dry up. The weevil is fairly large, colored bright red on the dorsal side and shining black on the ventral surface. Present day treatment calls again on the new poison DDT. Strength is as for combating the sand cherry weevil. Spray commences as soon as the first beetle is seen, and is repeated at 10-days intervals as presence of the enemy may require. This effective treatment is easily made and is more successful than former efforts. At one time the grower chiefly depended upon the bettle's habit of "freezing" when disturbed. A cover was placed under the bush in early morning, then the bush jarred. The insects fell to the ground and lay still. The mat was tilted into a container holding some old oil and that concluded the story for the beetles on the bush that morning. However, wild roses harbor the insects and DDT spraying gives the satisfactory solution to the problem.

He gazed admiringly at the chorine's costume.

"Who made her dress?" asked his companion.

"I'm not sure," came the reply, "but I imagine it was the police."

FRUIT AND VEGETABLE NOTES

By

F. X. Wallner

F. X. Wallner

June 19th, 1950. At this date we note that the grass and weeds are wilting and droop, as if set back considerably by the new spray, in the onion patch. At least there is considerable improvement over the past three years, when the onions were damaged also. Had we sprayed when the grass was small we might have had a better kill but it might have damaged the small onions also, but the two sprayings have done little harm, neither has it killed the crown of the larger grass. The parsnip and carrot sprays seem to be much more successful. But tomatoes curl up from the mist of the spray, even several yards away. A six-page letter from A. G. Pastian, the bee man from Bradley, better known when he was at Brandon, telling all about his trouble with the church board and other critics, about his planting the trees and hedge. Pastian even says the good church people snickered and some even said he was crazy; perhaps he did do considerable hard work and tried to break up the hard, dry soil, but we hope he does make his hedge and trees grow, up there where it is a little dry. I am also considered a little off in planting the four steep terraces on the hillside, on one of our new places in Lincoln county and at my age I suppose I should not try to put trees or shrubs on these steep slopes. But for years, long before we acquired this place, I have had visions of evergreen plantings all along the hilly slopes, south of the Sioux river. Evergreen planting from our place, all the way east to Minnesota avenue, and beyond, would give Sioux Falls a view similar to what we see when we get near the Black Hills. The evergreen planting that Mr. Huset made, up on top of the hill, has been neglected for years, but I intend to add to it and feel sure drought will not stop me as the terraces are holding the water, up there, on the steep slopes and most everything has got a good start. Anyone who has seen the long row of catalpa trees planted by the late Wm. Lyon, along the park, given to the city by him, beautiful and fragrant when in bloom, but terribly messy in the fall when their brown pods litter the ground, can appreciate the desirability of the spray mentioned in this Agri. Dept. release:

"Defruiting" of ornamental trees and shrubs that are beautiful in bloom, but that bear fruits that are either unsightly or a nuisance is one of the newest of the many fields in which "growth regulators" promise to be useful. This is in striking contrast with the service of some of these chemicals used to prevent "harvest drop" of apples.

Another field of usefulness of this group of chemicals is under active study by U. S. Dept. of Agriculture scientists. It looks to limited or partial "defruiting," particularly of apple orchards in which there is likely to be a set of more fruit than trees can develop to good market size. If the right chemical solution can be found to use immediately after full bloom or in the period when the small fruits are just forming it may be possible to spray trees and limit the set of fruit. This could save much expensive labor in hand thinning of the crop to the number of fruit that the trees can nourish.

L. P. Batjer of the Bureau of Plant Industry, Soils, and Agricultural Engineering, who did much of the research on which the "stick-tight" preharvest spraying of apples is based, is now working on these "partial defruiting" or "thinning" sprays. Batjer also notes that experimenters in Ohio last year had considerable success in "defruiting" sprays for ornamentals.

Several trees of ornamental value are objectionable because of the unsightly litter they make when their fruits ripen and drop. "If these fruits could be eliminated the value of the trees would be greatly enhanced," says Batjer. Some examples are horse chestnut, catalpa, European ash, honey locust and eastern poplar.

Experimental work will be required to find the best chemicals, the right strength of solution to prevent fruiting, and the time to apply it.

The boxelder, that furnished the first shade for the pioneers, is looked on as something of a nuisance now and frequently termed a weed. However, as it belongs to the maple family, its sap can be made into maple sugar, and in case you want to tap some of the trees this about making maple sugar should interest you:

"The sugar maple tree is not entitled to all the credit it has gained for the rich flavor of maple syrup. Man has a share, though he may not have been aware of it, says the U. S. Department of Agriculture. The practical method man has devised for getting rid of excess water in sugar maple sap develops the fine flavor in the concentrated sirup. This has been made clear by studies of maple sugar processing by the Bureau of Agricultural and Industrial Chemistry at the Eastern Regional Research Laboratory.

Raw sugar maple sap as it is gathered from the trees has little or no flavor. It is during the "sugaring off" process that the flavor develops. While the sap boils, chemical changes take place in the sirup, and these changes account for the flavor.

The process, the chemists have found, is not a matter of concentrating flavor from several gallons of sap into a gallon of sirup. In fact, they have used vacuum evaporation for taking out water and have produced a bland and practically flavorless sirup. They can get a similar bland sirup by freezing out the water. The flavor develops during heating, but all the reactions that take place are not yet understood.

The Laboratory is now making a chemical study and analysis of maple sap and sirup, and with refined technique has identified at least 7 organic acids and has isolated several components that have not yet been identified. The studies are being continued to get more complete basic information, and have already led to development of one important improvement in processing. They may lead to discovery of by-products of scarce chemicals for which maple sap would provide a source of supply."

Husbands are like furnaces. You have to watch them or they'll go out.

LAYING OUT THE GARDEN

By
Mrs. F. J. McFarland
Flandreau

In war time or peace time, gardens will always be needed. The promise lies in Genesis; as long as the earth remains, seed time and harvest time will always remain.

At the beginning of World War II Louis Gillet, a Frenchman, voiced this warning to America a warning he later wrote for the August and September Bulletin, "Our economy and civilization are founded upon about nine inches of top soil. When that has been ruined or washed away there will be no more economy and no more civilization."

It would be a fine thing if we were in new grounds and could afford the services of a competent landscape gardener, but most of us are in old established places and are trying to better the grounds and correct the previous mistakes in planting. In laying out a new garden choose any type you prefer, but follow the design in plants that do best in your locality. Remember to allow for expansion in setting out new shrubs and trees. Keep the large parts of your lawn open; do not cut them up by placing small flower beds in the center.

The vegetable garden should be a thing to itself. Although it is not a part of the garden scene it need not be unsightly. Place it at the end of the lot behind some low growing shrubbery. keep it simple but practical. A few ornaments or flowers conveniently placed can make this feature a thing of beauty.

Soil is the fundamental basis of all gardening. It is the home of the plant roots and the storehouse from which they obtain their supply of nutrients. The upper layer of earth contains more organic matter of leaf mold and is therefor darker than the sub-soil directly beneath it. Top soil in which, alone, plant growth is possible is a living thing, teeming with microorganisms such as earth worms, yeast, mold, and bacteria. They break down the organic matter into plant food. Subsoil lacks air, water, living organisms and decaying organic matter, and is almost absolutely incapable of supporting plant life.

Plants are made up of from 60 to 90 per cent of water; they do not eat; they only drink soluble food injested through the roots. The green plant is the only thing capable of making its own food, and without it civilization would perish. The process is called photosynthesis, a Greek word. The principal part of soil was once solid rock, which has been disintegrated by heat, cold, flowing water, moving ice, wave action, winds, vegetables and animal growths. The inorganic constituents of soil come from the rocks of the earth's crusts, i. e. lime, saltpeter, limestone, etc.; while the organic constituents come from decaying animal and vegetable matter which holds much of the more soluble plant foods such as ammonia, phosphorus and potash. There is no doubt that this fact is but little understood because so many gardeners burn leaves every spring and fall without looking even slightly shamefaced while so doing. After the bonfire, the ground is burned out beneath, the nitrogen is lost, the phosphorus and potash are left covering a very small portion of the ground, and both are easily blown or washed away.

Soil texture depends upon the size of the soil particles or crumbs and on this basis soils are separated into three general groups, namely, sandy, loamy, or clay. Sandy soil is coarsely ground rock; water and air go thru it too rapidly. Clay soil is so finely ground and dense that it excludes all air, and water runs off. Plenty of humus must be mixed with these two extremes.

To keep soil in a fertile condition all growth must be balanced by an equal amount of decay, and this almost never happens where intensive gardening is practiced. When ground is continually made to produce as much as possible it is difficult to put back into the soil as much as the plants have taken from it, unless rotation of crops is practiced and the land allowed to recuperate for a year. Organic matter may be returned to the land by turning under green manure crops, such as winter rye, clover, or soybeans, or by applying farm manure, peat, leaf mold or the material from the compost heap. Winter rye, clover and soybeans, when plowed under, have the ability to collect atmospheric nitrogen in nodules on their roots and thus give back to the soil more nitrogen than was present before they were planted. Animal manures are wonderful soil conditioners, but they must be thoroughly decayed or they will burn off stems and roots. Bone dust or bonemeal are excellent fertilizers for general use as they contain much phosphate and nitrogen.

Plants starving for nourishment have a sign language that readily reveals their distress. When nitrogen is needed the plant is stunted and undersized, the leaves are yellow or orange tinted, and the ends withered. When sufficient phosphorus is lacking the plant is tall, spindly and unthrifty, with a weak root system, and it will not flower or fruit. When potash, the balance wheel, is missing, the plant growth slows down, then blights, or is of poor color, and is susceptable to diseases and parasites.

Humus has been called the "key material in the life cycle." It acts as tiny sponges to absorb the water, and forms a home for bacteria. Bacteria cannot live without air and water, and most plants cannot live without bacteria. The earth worms are very beneficial also. They are one of our better soil conditioners as their shiny black casts are high in nitrogen, phosphorus and potash.

Strong commercial fertilizers are inert, they may produce startling results for a time; but later they cause an unbalanced condition of the soil by killing earthworms, reducing bacteria and fungi, and destroying the soil structure and thus causing hard packing and erosion. We cannot always control location and weather but we can change soil. We talk of fertilizers—buy this kind and that—when the things our soil really needs is proper soil structure. By structure we mean tiny crumbs of soil with minute air spaces between them. Humus or organic matter with plenty of hoeing or stirring, makes good soil structure.

We must turn back to Nature's own method of soil building by returning to it plant foods in organic form. By organic we mean material either animal or vegetable that has been alive at one time, i. e. manure, animal flesh and blood, straw, leaves,

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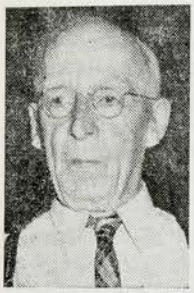
SECRETARY'S CORNER
By
W. A. Simmons



W. A. Simmons

In listing their recent acquisitions, the Morton Arboretum says: "Among the coniferous evergreens Juniperus virginiana, Berg's Rust Resistant, a Red cedar selection resistant to Cedar Apple Rust should interest many, especially those wishing to grow hawthorns and cedars, alternate hosts of the rust in close proximity." This would also apply to growing apples and cedars within a mile of each other.

The following from Victor H. Ries' monthly letter will interest growers of the African violet:

Mite Control on African Violets

D. C. Kiplinger, Floriculturist,
Ohio State University

With the exception of the last few years, there has never been a satisfactory remedy for mites on African Violets. These pests which are invisible to the naked eye, attack the new leaves of the plant causing them to be stunted and hard. Long hairs develop on these leaves giving them a whitish appearance. If the plant has a light infestation of mite it will not flower, and when heavily infested rotting of the crown is very common.

Sodium selenate is very useful in not only protecting the plants from an infestation of mite, but also controlling mite on plants that are badly stunted. Since only small amounts of sodium selenate are required, have your druggist weigh the material because he has scales that are suitable. One half a gram of sodium selenate should be placed in 1 gallon of water and this should be stirred thoroughly. This solution is watered on the soil overhead just the same as when the plant is watered. Two weeks later another application should be made. This treatment usually will last for 3 to 4 months and then 2 more applications 2 weeks apart should be made.

Sodium selenate should only be used on African violets which are well established in the pot or container in which they are growing. When treating, the soil should be on the moist side to avoid burning of the roots. Never splash the solution on the foliage as it will burn. If accidentally spilled on the foliage, wash off the solution at once with lukewarm water.

Sodium selenate is extremely poisonous and therefore should be clearly labelled and kept out of reach of children and pets. Do not use sodium selenate on vegetable plants, and don't grow vegetables on soil that has been treated with selenium. If someone chews a leaf or two of treated African violets, no harm will result as it has been rather carefully estimated that a human being would have to eat about 5 pounds of treated plant material per day to get a fatal dose. Sodium selenate may be obtained from your druggist.

Mr. Chas. Furois, long time member in St. Onge, writes as follows: "Have you ever heard of a tulip that had 3 blooms or flowers on one stem? I had two of them on one of my plants this year, and I waxed them to show that I am not a liar and anyone that wants to see them can do so. Things are looking fine here; not too much moisture in the ground, and everything a little late, but coming along fine now." In case any of our readers have any apples to store this year, here is something from the Canadian Grower that may interest him:

"Fruit growers in Ulster county, New York, store their McIntosh apples in gas tight rooms in a state of suspended animation during the long winter months. On their "awakening" in the spring the apples are crisp and juicy as the day they were picked the previous fall—just right for the fruit-hungry spring market.

Putting an apple to sleep means to stop its breathing. The more rapid the respiration, the quicker the fruit spoils, explains C-I-L Agricultural News. To prevent this deterioration, apples are stored in metal-lined, completely gas-tight rooms in which charcoal blowers are installed to absorb the natural esters given off by the ripening fruit. To put the apples to sleep, the oxygen content of the air is reduced and the carbon dioxide content increased. Temperature is kept at 38 or 40 degrees F. To keep the ratio of gases exactly fixed, an atmospheric washer which employs a caustic soda solution is used."

Pity the poor soldiers in repelling the constant attacks of mosquitoes in our vulnerable outpost in Alaska.

Alaskan Defense

In Alaska, too, soldiers show their traditional attraction for the female of the species—this time of local mosquitoes. It is a long range attraction—of at least three miles. This was proved last summer in joint experimental research and practical protective efforts by the Army and by the Bureau of Entomology and Plant Quarantine of the U. S. Department of Agriculture.

Using Army planes, and sprays of DDT formulated by the entomologists, protective spraying was tested at Ladd Field near Fairbanks, at Eielson Field about 25 miles away, and at Big Delta, about 100 miles from Fairbanks. Sprayed areas ranged from a 2-mile square (4 square miles) to a 6 mile by 5 mile tract (30 square miles). DDT was effective in reducing sharply the annoyance from mosquitoes, and spraying with as little as a pint of concentrated spray containing one-tenth of a pound of DDT to the acre was deadly to mosquitoes. This not only protects by killing the adult mosquitoes, but prevents the females from egg laying in the sprayed area. In spite of the treatment, mosquitoes were flying over the treated area within several days to get at the soldiers. "Infiltration" is a term both military science and entomology uses for this kind of attack.

To provide satisfactory mosquito protection on the larger areas, the spraying had to be repeated every 7 to 10 days. A two-mile square gave fair protection for only about 48 hours. The treatment with a tenth of a pound of DDT to the acre was regarded as satisfactory since a treatment with four times as much DDT gave little added protection. Spraying tracts even larger than 5 miles square may be necessary to keep the mosquitoes away.

Many infections start from scratch —get first aid.

CERTIFICATION OF SEED POTATOES IN SOUTH DAKOTA

By
C. S. Blackman, Clark

The certification of potatoes in South Dakota is handled by the South Dakota Potato Growers' Association under a cooperative agreement with the State Seed Certification Board. The State Seed Certification Board was set up by action of the last session of the South Dakota Legislature and previous to that time the potato growers' association cooperated with the State Department of Agriculture.

Potato certification started in South Dakota in 1922 when the association was organized. The first few years the acreage entered for certification was small and ranged from 200 to 400 acres and this increased to 700 and 800 acres until the dry period in 1933 and 1934 when the acreage dropped sharply. In 1937 several car loads of new foundation Bliss Triuphs were shipped into South Dakota for seed and the acreage started to increase. In 1941 over 2,200 acres were entered for certication and this increased until in 1945, 8,566 acres were entered for certification. There was a decrease in the acreage entered for certification in 1946 and 1947 and this year the acreage entered will be slightly over 7,000 acres. This potato acreage is largely centered in the Northeastern part of the state in Clark and Codington counties. Bliss Triumphs is the leading variety entered followed by Irish Cobblers, Pontiacs and Red Warbas.

The certification of potatoes in the United States has been on the increase and last year over 44,000,000 bushels of certified seed potatoes were produced. South Dakota ranked seventh in the total production of certified seed potatoes in 1947 with Maine first, North Dakota second, Minnesota third, California fourth, Colorado fifth and Wisconsin sixth. In varieties certified in 1947 South Dakota ranked first in Pontiacs, third in Bliss Triumphs, Red Warbas and Early Ohios, fourth in White Warbas and fifth in Irish Cobblers.

In potato certification the grower starts with certified seed and enters them for certification before June 15 giving the number of acres, the variety, the source of seed and the time planted. The field inspections are made during the growing season by a competent inspector hired by the South Dakota Potato Growers' Association. The fee for entering potatoes for certification is $1.00 per acre and if for any reason the potatoes are rejected at the first inspection, a refund of 25c per acre is made. If the potatoes are rejected at the time of the second inspection no refund is made. The first field inspection is made when the potatoes are 8 to 12 inches tall and the inspector looks for virus diseases such as spindle tuber, mosaic and leaf roll. He may also find some blackleg and rhizoctonia. If the field has more than 2 per cent of any one of these virus diseases at the time of the first inspection it will be rejected unless the inspector feels that the grower can rogue out the off-type plants. If the field has been well sprayed to keep the insect population down there is not much danger of transmitting the disease from a diseased plant to a healthy plant. If the inspector finds any insects such as aphids, leaf hoppers and flea beetles, he will know that disease is transmitted to the healthy plants and it may be good judgment to reject the field. We have very little trouble in the potato area from the Colorado beetle which is the old fashioned potato bug but this insect has been noticed in the fields in Roberts and Brown counties. Most of the growers of certified seed potatoes dust or spray their fields every week to ten days. In the wet spray DDT is used with Dithane which gives control of insects and possible late blight. If a dust is used a 2 to 5 per cent DDT dust with Zerlate added will give effective control. Dusting from the air is also practiced by some of the larger growers.

The fields are harvested very carefully with two pickers working together using 35 to 40 pound picking baskets. When two baskets are filled one picker will hold a sack while the other picker empties the two baskets in the bag. These bags will then be picked up on flat bottomed trucks and hauled to the warehouse or picking shed. Most of the certified seed is stored for shipment after January 1 but some early shipments are made to Cuba and Southern Florida. Potatoes must be picked immediately after the digger; in warm weather they are very liable to be subject to sun scald. Sun scald causes a break down in transit and causes the potatoes to be off-grade. Another very good early market recently has been the sale of washed potatoes at central points like Chicago, Cincinnati and St. Louis. All certified seed must be inspected by a federal-state car inspector and most of the table stock shipped is also inspected. This service is also handled by the South Dakota Potato Growers' Association under a cooperative agreement with theUnited States Department of Agriculture. Geo. W. Christenson of Minneapolis is the supervising inspector for this area and he trains and selects the men for the car inspection work. The car inspectors last season were located at Clark, Garden City and Watertown. The shippers pays the fee for car inspection which is $5.50 per car load.

In order to keep up the high quality of certified potatoes, growers find that they must ship in foundation seed from disease-free areas every year or two. Seed is shipped in from Western North Dakota, Northern Minnesota and points in Wisconsin. Some growers also plant a tuber unit seed plot which is also a good way to keep the seed disease free. In a tuber unit plot medium sized potatoes are cut in four pieces and planted in a unit in the field with each unit being marked by skipping one hill. This work has to be done by hand so the acreage in the seed plot is usually just enough to supply seed for the grower the next season. When this seed plot is inspected if one plant in the unit is found to be diseased, the whole unit is destroyed. Another method of testing seed for disease before it is planted is by what is known as the tuber index method where a seed piece from the tuber is planted in the greenhouse during the winter. This requires considerable greenhouse space but this test will locate any disease present in the tubers present. Representative samples of lots of seed are also planted in Florida where disease readings can be made early in the season before the potatoes are planted in the state. Potato growing and potato certification is a specialized business

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GROWING HYBRID TEA ROSES

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trary, roses can be sprinkled or sprayed, and will probably be better for having had the foliage washed occasionally, if the sprinkling is done in the morning so that the foliage will have sufficient time to dry off before nightfall. Any time that rose leaves are allowed to stay wet for over seven hours at a time disease is invited.

To obtain the greatest numbers of blooms, do not cut roses with a long stem. In cutting off the withered blossoms, trim back to the first true leaf, that is the first leaf having five leaflets.

In South Dakota it is necessary to protect hybrid tea roses against severe winters. Soil is perhaps the cheapest and best material yet found for this purpose. I advise starting the hilling up process about the middle of October, mounding up about four inches of soil around each bush. This will not harm the plant and will act as insurance against any such early freeze as we had in November of 1941. Later, about the last of November, and before the ground freezes, build the mound to about eight or ten inches. The tops may or may not be pruned at this time as the grower chooses. Then, after the ground has frozen, the beds may be covered with a mulch such as evergreen boughs, shingletow, excelsior, straw or some like material. This is not a must as long as roses are well covered with earth.

In the spring, after danger from freezing is past, the mulch should be removed from the bed and the mound of earth gradually washed away with water from a hose. The spring pruning should consist of cutting out the weak canes and trimming the strong branches back to live wood, or if the canes are alive for any considerable distance, they should be pruned to about one foot in length.

It would be pertinent to mention, I believe, insects and diseases affecting roses. The most common insect to combat is the aphid, or green fly, as it is sometimes called. There are now many good sprays on the market which will control aphis. In South Dakota, mildew and black spot are the chief diseases that are commonly encountered, and there are several good copper and sulfur dusts or sprays which control these diseases, providing they are used sensibly. Apl ply the first spray in early spring when the new shoots are about six inches long, and about once a month thereafter. It is necessary to caution against the use of sulfur after the temperature reaches 80°, as more damage will be done than good. Do not spray or dust too frequently, and with this and that spray which happens to be convenient. A well-grown healthy rose bush will get along with very little care, and like a healthy person does not need to be forever taking medicine; a rose bush is not a hypochondriac.

LAYING OUT THE GARDEN

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kitchen and table scraps, all field and garden waste, and many more. South Dakota has lost 40 per cent of its original organic matter from continuous cropping and erosion. Our task is to foster and preserve the fertility of this thin layer of top soil.

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and the certification is only as good as the integrity of the grower.

South Dakota seed potatoes have a very good reputation in the Southern areas where they are planted and it is the aim of the South Dakota Potato Growers' Association to keep up the very highest standards possible in the production of good potatoes.

FALL PLANTING FOR YOUR GARDEN

By
W. R. Leslie
In Country Guide

Prairie gardeners often are asked —When should the stock be planted? The when is fully as imortant as the how, in many instances. Springtime is ever too short and too fleeting to accomplish all the chores desired. The period from mid-April, when the ground dries sufficiently to dig deeply, until the second week in May, when plant dormancy is broken, is the accepted planting season for trees, shrubs and vines. These few days are overly busy. If spells of heavy rains occur, planting time is further curtailed. In consequence gardeners seek a second season for their transplanting.

Autumn planting is common practice in mild, moist climates. The prairie realm is neither moist nor mild. The winter temperatures are low, the air relatively dry and frequently windy. In some seasons, snowfall, which is Nature's excellent comfortable blanket, is rather scanty and delayed in coming. Such conditions prohibit the successful transplanting of tender subjects in autumn. However, there are a considerable number of plants that move best in late summer. A general rule is to plant spring-blooming subjects in autumn and late-blooming plants in the spring. The rule must be modified somewhat here, owing to the probable trying conditions encountered from prolonged deep frosts of winter.

At the outset it seems well to give a little consideration to plant nature so that the major operation of moving plants be performed with understanding.

There is a rhythm to plant growth. This varies considerably with different groups and species. Moreover, growth in the different parts of the plant take place at unequal rates of speed. All plants have periods of dormancy and periods of rapid growth. Transplanting is most favorable when the plant is dormant. In this respect there is suggestion of hospital procedure. Winter acts as an anaesthetic. The major operation is done before the patient is awakened into consciousness by warm spring sun and rains. Thus, early spring is the logical time, the plants being still relaxed in slumber.

The strengthening sun's rays in April thaw the ground, thus freeing moisture. Plant tissue moistens as the roots absorb water. Sap begins to circulate. This dissolves stored plant food. Dormant buds, being stimulated by warm temperatures and aroused by nourishment, fatten, expand their scales, and put forth young leaves, while some also produce flowers. Plant processes become general.

Most woody plants experience luxuriant growth of new shoots and form next season's flower buds in June. This flush of growth, which occurs at the expense of stored materials manufactured during the previous season tapers off in July. By August most older specimens will build a terminal bud on the new shoots. This marks cessation of length growth for the season. If conditions are overly encouraging, due to rich soil and heavy rainfall, terminal growth may continue on young plants late into September. Such a state is undesirable as it hazards tip-killing by early frosts. The gardener endeavors to prevent late growth by stopping his cultivation of soil in early July, and holding off irrigation and other growth-inducing practices.

Normally the tulip is content to go to sleep by mid-summer. The leaves brown and die down in late June or July. Bloodroot, ixiolirium and trillium wither and dies down completely in summer. Oriental poppies have a rest period in August. Spruce trees have completed their growth by early August. Raspberries are in a quiet state by early September. A large proportion of plants are in a lull of growth processes in late August and early September. The tops of the plants appear satisfied with their season's effort. However, a study of the parts of the plants underground reveals that a new mesh of roots and rootlets are put forth at this season. This suggests that the time is auspicious to do transplanting and thus have the new roots grow during autumn to anchor the plant and reestablish it in its new permanent setting. Root activity continues until lowering temperatures cool the soil to the degree where further development is halted. The plant then becomes dormant. It is imperative that the soil be moist in early autumn, for free root growth.

A nursery tree may be moved without killing the patient at any time of the year. If done in June or July, when carrying its leaves, the plant requires to be moved with a ball of earth on its roots. It will demand frequent generous waterings, and the leaves should be syringed every evening. Also it may be necessary to erect a burlop screen to afford shelter and partial shade.

Transplanting is a distinctive major operation. Most deciduous trees have roots extending out with a radius about equal to twice the height of the tree—or a diameter of root-spread amounting to four times the height of the top. A spruce has normally one-half that spread. Hence, no matter how skillfully transplanting is done, the loss of roots in digging is enormous. The patient must be considerably nursed if it is to even survive, let alone thrive.

Some plants are best planted only in the spring. Experience at the Dominion Experimental Station, Morden, Manitoba, includes in that catagory the following: Birches, Siberian and Chinese elms, apricots, walnuts, grapes, chrysanthemums, Michshood, false dragonhead, perennial aelmass daisy, sneezeweed, monksunflower and gayfeather.

In contrast, a number of plants are safely planted only in late summer and early autumn. Among these are scillas, tulips, lilies, peonies, lily-of-the-valley, Desert candle, Virginia bluebells and Oriental poppy.

The largest class of plants is that called "in-between"—those subjects which are suitable to either spring or fall planting. For the latter season it is absolutely necessary that the soil be mellow with ample moisture. The roots are trimmed neatly with a sharp knife and protected with wet burlap or watered hay so that they do not become dry. Exposure to sun and wind for a few minutes will seriously injure the rootlets, and may harm the roots to the point where they fail to grow. A large, roomy

hole is dug, the roots spread out comfortably with the strongest pointed westward as support against prevailing winds, and mellow top-soil wedged firmly against the various roots with the back of the planter's heel. If the tree be tall, it may require support by burlap hammocks fastened to three rigid stakes. In most locations, benefit will come from mixing a gallon or two of granulated acid peat or shredded spaghnum moss with the top soil used in filling in the hole. It is a sponge to hold water and aids root development.

In late October or early November, before freeze-up, it is helpful to mound the transplant up with a cone of soil to a height of six to 1[illegible]. This is a root protection for winter and strengthens the top against winds. Next spring the soil is tilled back level

Plants which have their tops wither down in summer are moved to advantage as soon as the leaves turn brown. While the leaves remain green they are still manufacturing food which is stored in the fleshy roots, bulbs, tubers or rhizomes to provide power for lusty growth next spring. Faulty pruning, careless cultivation, attacks from insects or diseases are to be avoided, because any loss of leaves lessens food storage and weakens the plant. To prove winter-hardy and thrifty next year, the plant needs to be well fed by a full corps of leaves. A common example of the importance of summer leaves is found in the rhubarb plant. If stalks are harvested after the end of June the fleshy root is prevented storing up sufficient food supplies through shortage of leaves, and the following spring the impoverished plant will probably produce chiefly flower stalks.

(Continued Next Month)

NEWSLANTS

(Continued from Page 99)

Society here close at hand, we decided that it would be best to try to have a September meeting. We hope that things will not be quite so busy by that time and that we can get going again on regular annual meetings. To observe that "there are a lot of things going on" would be a mild understatement. We found that when we attempted to schedule this meeting in early June that there were so many other events to be held at the approximate same time that it was difficult to find a place to hold the meeting in.

When and if we get around to finally scheduling the meeting definitely, we will send a circular letter to every paid up member of the North Dakota Society as well as publicize it on news and radio.

We did put a cancellation notice on the AP wire here in Fargo and had it broadcast over several radio stations when we decided not to have the meeting on June 9 and 10.

I believe that the Shafter Long White potatoes referred to by Mr. Wallner in his column in the magazine for June is actually the variety White Rose. Considerable acreage of White Rose is grown in North Dakota and the seed shipped to the Kern County area. I understand that after they have spent a season in California, they become Shafter Long Whites.

As if gardeners didn't have troubles enough already, the June issue of Wisconson Horticulture conveys the cheering news that the European corn borer also likes gladiolus. It seems that corn and glads are only two of 200 plants that pleases the corn borer's palate. 'Tis said that one maturue corn borer can ruin a spike; and since there are about 20 eggs in a single egg mass, glad growers have some reason for apprehension. However, 5 per cent DDT dust is the recommended control. Five per cent DDT is also recommended control for that all too common glad thrip. To the grower, then, who faithfully dusts for thrips the borer shouldn't have too much of a start.

Don't forget to get yourself a good hand garden duster—if you don't already have one!

Another new apple by-product is announced. This is an apple concentrate syrup, introduced by the Borden company as a milk modifier for infant feeding. It will displace corn syrup to a great degree. Much of the development work was done at Virginia Polytechnic Institute and Children's Hospital, Philadelphia. Sold under the name. "Infose," the product contains three natural fruit sugars, a standard pectin content and natural organic iron.—The Maryland News Letter.

The health officer inspected Si Waller's farm, and found the hogpen too near the house.

"You'll have to move it, Si," he decided. "It's rather unhealthy you know."

"No, I don't know," bristled Si. "Hogpen has been right there for twenty years, and I ain't lost a hog yet."

GARDEN CLUB GLEANINGS

(Continued from Page 103)

and After contest patterned after that of Better Homes and Gardens. Take a quick glance back over the many plantings mentioned in this month's Gleanings alone and see what is being accomplished by these groups over the state.

We have always had a hankering to learn which flowers bloom the earliest in South Dakota and where. This year is a poor year to make records or comparisons, but there were pussy-willows and pasque in bloom at the Hem Tea in Dell Rapids on April 19. Mrs. Andrew Melham of Watertown had the honor of bringing the first scilla and the first crocus from her garden, while those in Dell Rapids were only budded. We had thought the southernmost corner of the state would show the earliest blossoms, but there is a highly favored section along the east border and extending far north to the lake region. We would like to have reports of the first outdoor blossoms in South Dakota frm all sections next year. One year a Dell Rapids garden boasted blossoms for nine months but that is not often duplicated.

From H. E. Beebe comes a bunch of old Horticulture magazines which were distributed at the Hem Tea. As secretary for the MIT Club of Southern California, Mr. Beebe has become just as ardent a booster for the coastal state as he used to be for South Dakota. His energies are also put to good use as a director and participant in the Hollywood Community Sing organization the slogan of which is "Where neighbors become friends." That suits "Hi," whose friendliness is famous, and whose address at 1847 N. Wilcox avenue, Hollywood, is "open sesame" to anyone who calls. He says, "I hope all South Dakota gardens will be glorious this year."

The Milwaukee District's Symposium on Roses is the latest rose literature added to our files, and is a worthy tribute to this glorious flower. The book is the project of the garden clubs of Milwaukee, edited by Mrs. J. L. Engler, and gives culture, history, classes or types of roses, recipes using rose petals, literature, and recommended varieties. You may borrow it any time.

Clubs Please Note

Since last August dues to the Federation have been 50c per member to be sent to Mr. Simmons at Sioux Falls. Remember this takes care of all your dues to State and National Federation as well as your subscription to Dakota Horticulture from the Horticulture Society. That is a bargain in anybody's language.

STATE CONVENTION SEPTEMBER 27, 28, 29, 1950, HURON, S. D.

REPORT ON GARDEN MEET

(Continued from Page 100)

eral of the local members attended, and the planning of the state clubs with the highway commission, state forestry department and conservation board for roadside plantings and public picnic areas.

Other outstanding events Wednesday were the election of national officers and the presentation of national awards for 1949. Virginia copped the gold ribbon award for having presented the "best flower show in America," but a small Connecticut garden club won the coveted Kellogg award. The Kellogg medal, highest award offered by the national council, was given to Westport, Conn., club for restoring an 18th century cemetery in the center of their New England community. Members of the club cleaned out brambles, poison oak, fallen trees and other debris, rescued and cleaned old tombstones and landscaped the quaint burial grounds.

John D. Rockefeller, Jr., was awarded the gold seal for his restoration of colonial Williamsburg. The Fischer Garden center medal was presented to the Jacksonville, Fla., club, and Rocky Mountain, Mont., won the Helen Hussey Champlin award for promoting Junior Garden clubs. Awards were also given to various garden clubs and individual members for conservation, achievement, horticultural achievement. literary accomplishments and flower show achievement.

On the final day of the convention, delegates enjoyed an all-day trip to colonial Williamsburg, Va., with a visit to Westover, James River plantation en route.

MY NEIGHBOR

(Continued from Page 98)

When I left—you may have guessed,
I said "So long Bo—I've got to go"
The breeze as it went hurrying by,
The dog-gone thing it seemed to sigh,
'O. K. Joe—so you gotta go."
It lifted my hat and I fell flat,
But I felt better, I can tell you that.

The story of man began in a garden, and in the ages since, wherever he has laid claim to being civilized, gardens have figured in his scheme; which is understandable, for gardening is as close as most of us get to the realm of creative artistry.—Detroit News.